AN PEDRO FISHERMEN'S FIESTA
September 15-16

★

NATIONAL TUNA WEEK
September 13-22

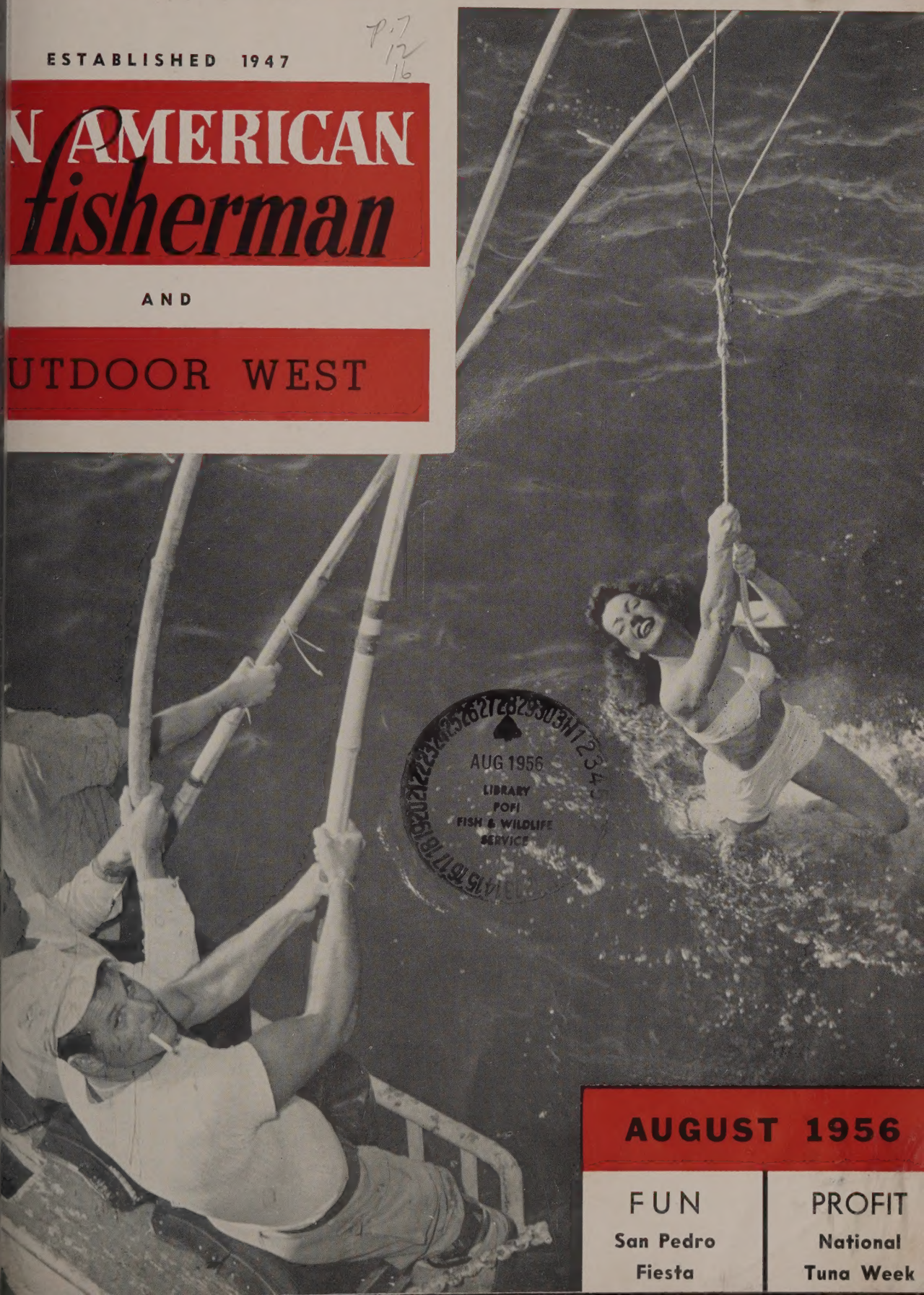
P-7
12
16

ESTABLISHED 1947

N AMERICAN *fisherman*

AND

UTDOOR WEST



AUG 1956
LIBRARY
POFI
FISH & WILDLIFE
SERVICE

AUGUST 1956

FUN
San Pedro
Fiesta

PROFIT
National
Tuna Week

VOTE + but

Study the issues and the candidates—and then decide where you stand

You wouldn't buy a new car without at least driving it around the block.

You wouldn't buy a new house without checking up on the neighborhood, the schools, and any back taxes.

So vote—but don't vote in the dark in this exciting election year.

Listen to what candidates are saying on TV and radio.

Read your newspapers—especially the political news and editorial page.

Talk things out with your neighbors over the back fence and at the filling station on the corner. Take part in the discussion group at your church, club, lodge, or school.

Think about the issues and the candidates—and then make up your own mind. Remember, nobody is in that voting booth but you and your conscience. Step behind that curtain with pride on election day. Then vote as a free American.

VOTER'S CHECKLIST

1. Be sure you're registered.

2. Study the issues and candidates. Go to rallies. Ask questions. Read the papers. Listen to speeches.

3. Mark up a sample ballot in advance. (They are published in the papers.)

4. Join your neighbors at the polls on Election Day November 6th.

Is your name in the book?

You can't vote if you're not registered. You lock yourself out of the polls, unless you're a registered voter. And you and only you can get your name in the Registration Book. When they call the roll on election day, will you be there? Do you know anyone who won't?

THE AMERICAN WAY FOUNDATION
PUBLIC SERVICE ADVERTISING

Insuring the Present . . . and the Future

As in the Past . . . So in the Future

All Activities of the American Tunaboat Association

Are Directed to the Improvement and Prosperity

of the Tuna Industry

Joseph E. Penacho
President

Harold F. Cary
General Manager

AMERICAN TUNABOAT ASSOCIATION

No. 1 TUNA LANE • SAN DIEGO, CALIFORNIA

Published Monthly • Established 1947

PAN AMERICAN Fisherman and OUTDOOR WEST

SANDO PUBLICATIONS
KEllogg 8-5441
Orange Savings Building
ORANGE, CALIFORNIA

VOL. II - No. 1
AUGUST
1956

BRIANT SANDO—Editor and Publisher
ROBERT K. LAWSON
Associate Editor
STAFF PHOTOGRAPHERS
Busco-Nestor Studios

ADVERTISING REPRESENTATIVES

A. S. Babcock Co.
605 Market St.
SAN FRANCISCO 5, CALIF.
Telephone Yukon 2-3954

Howard F. McClenahan
402 - 1010 Euclid Bldg.
CLEVELAND 15, OHIO
Telephone Prospect 1-6100

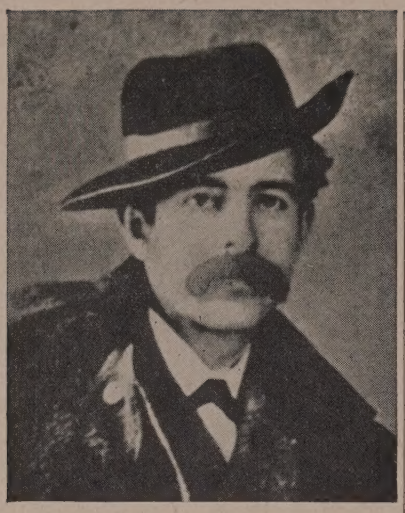
Prendergast & Minahan
168 N. Michigan Ave.
CHICAGO 1, ILL.
Telephone Financial 6-0993

W. R. Ewald
P.O. Box 228
FRANKLIN, MICH.
Telephone Mayfair 6-1138

C. A. Larson & Associates
254 West 31st St.
NEW YORK 1, N. Y.
Telephone Longacre 4-4285

In This Issue . . .

	PAGE
New Setup for Fish & Wildlife Service	5
Four Movies on Outdoor Subjects	5
San Pedro Fishermen's Fiesta	6
National Tuna Week	7
Sardine Landings in California	8
Imports Come from Many Countries	9
Plan for Cutting Costs of Boats	10
What's New or Different	11
Electronic Devices in Fishery Work	12
Antibiotics Help Prevent Fish Spoilage	14
California-Arizona Boundary Line	16



Local boy makes good

WHEN A PATRIOTIC Concord man left a bequest for a local statue, there luckily happened to be a real sculptor close at hand. Even more luckily, young Dan French had never yet sculped a whole statue. So he took the job for expenses, and glad to get it.

And Mr. Emerson, a neighbor, gladly obliged with a little inscription, ending—

"Here once the embattled farmers stood,
And fired the shot heard round the world."

Later, Daniel French made many more statues, but his fame needs only two to rest secure. One is the massive, brooding figure in the Lincoln Memorial. The other is his first: the big, bold, living bronze of the Minuteman of Concord.

When, in 1941, a symbol of American strength was sought, the President picked the Minuteman. Ever since, the Minuteman has been the emblem of the great savings program that helped—and still helps—keep America and her people safe and secure. This year, the 15th anniversary of U.S. Series E Savings Bonds, finds 40 million Americans owning $40 billions of Bonds. Are you among them? Invest in Savings Bonds regularly. And hold on to them!

★ ★ ★

Millions have benefited financially from the great savings idea born 15 years ago! Yes, U.S. Series E Savings Bonds helped buy homes, pay for children's educations, build safe retirement incomes. And they can do as much for you. Because Savings Bonds are a *money-building* investment—and the easiest way to save ever devised! Join the Payroll Savings Plan today, or buy Bonds regularly where you bank.

Safe as America—U.S. Savings Bonds

The U. S. Government does not pay for this advertisement. It is donated by this publication in cooperation with the Advertising Council and the Magazine Publishers of America.

PUBLIC SERVICE ADVERTISING COUNCIL

Pan American Fisherman is published monthly • Business office—Orange Savings Building, Orange, California, telephone KEllogg 8-5441. Subscription rates in the United States and possessions, one year $3; two years $5.00; five years $10.00. Canada $4.00 per year; all other countries $5.00 per year. Current copy 50c each; back numbers $1.00 each when available. Entered as second class matter March 12, 1953, at the Post Office at Orange, California, under the Act of March 3, 1879. Postmaster: Form 3579 requested.

Congressional Action:

New Setup for the Fish and Wildlife Service

FOLLOWING the adoption of the House of the conference report on 3275, a bill to reorganize the U.S. sh and Wildlife Service, the Senate ssed the bill on July 27, 1956, and e bill was cleared for the President. ne bill as finally passed provides, nong other provisions, for the fol- wing:

Sec. 3 (a) There is hereby estab- shed within the Department of the terior the position of Assistant Sec- tary for Fish and Wildlife, and the sition of Commissioner of Fish and ildlife. There is also established a nited States Fish and Wildlife Serv- e within the Department, consisting two separate agencies, each of nich shall have the status of a Fed- al bureau. There shall be a Di- ctor of each of said Bureaus. ne of the agencies shall be known the "Bureau of Commercial Fish- ies" and the other agency shall be nown as the "Bureau of Sport Fish- ies and Wildlife." The United States sh and Wildlife Service, except as escribed by this Act, shall succeed and replace the presently existing sh and Wildlife Service of the epartment . . .

(d) In order to make a proper stribution between the two Bureaus the United States Fish and Wild- e Service established by this Act, e previously existing functions, owers, duties, authority, liabilities, mmitments, personnel, records, and her properties or matters previ- sly handled by or administered rough the former Fish and Wildlife rvice of the Department, shall be stributed as follows:

(1) The Bureau of Commercial sheries shall be responsible for ose matters to which this Act ap- ies relating primarily to commer- al fisheries, whales, seals, sea-lions, d related matters;

(2) The Bureau of Sports Fisher- s and Wildlife shall be responsible r those matters to which this Act plies relating primarily to migra- ry birds, game management, wild- e, refugees, sport fisheries, sea ammals (except whales, seals, and a-lions), and related matters; and

> The 84th Congress, near its close, worked out a compromise bill designed to improve Federal policy-making affecting both commercial and sports fishing.
>
> The final legislation embodies features of bills introduced in the Senate earlier this year by Senator Thomas H. Kuchel of California and Sen. Warren S. Magnuson of Washington, along with features of a subsitute bill drafted by Representative Herbert C. Bonner of North Carolina.
>
> In brief, the new act creates a separate fisheries division in the Interior Department, to be under direct supervision of a new Assistant Secretary. It will have two bureaus, one dealing with sports fish and wildlife, and one with commercial fishing. A revolving fund of $10,000,000 is provided for loans to commercial fish operators.
>
> Praising Senate and House conferees who worked out an acceptable bill ending violent conflicts between various interested groups, Sen. Kuchel said: "I have conscientiously endeavored to make the public interest the basis of my decisions; fair alike to sport and conservation groups and to commercial fishermen. I hope the new bill will benefit our tuna industry and also safeguard the interests of those for whom sports fishing is a greatly-enjoyed recreation and hobby."

the funds and allocations shall be distributed between such Bureaus as the Secretary of the Interior shall determine . . .

Sec. 4. (a) The Secretary is authorized under rules and regulations and under terms and conditions prescribed by him, to make loans for financing and refinancing of operations, maintenance, replacement, repair, and equipment of fishing gear and vessels, and for research into the basic problems of fisheries.

(b) Any loans made under the provisions of this section shall be subject to the following restrictions:

(1) Bear an interest rate of not less than 3 per centum per annum; (2) mature in not more than ten years; (3) no financial assistance shall be extended pursuant to this section unless reasonable financial assistance applied for is not otherwise available on reasonable terms.

(c) There is hereby created a fisheries loan fund, which shall be used by the Secretary as a revolving fund to make loans for financing and refinancing under this section . . . There are hereby authorized to be appropriated to the fund the sum of $10,000,000 to provide initial capital. *

Four Sound Movies On Outdoor Subjects

Four new documentary motion pictures produced by the U.S. Interior Department are in 16 mm color and sound, as follows:

Outboard Fisherman U.S.A., financed by the Outboard. Marine and Manufacturing Company of Milwaukee, Wisconsin, makers of outboard motors. It shows how the rugged, small, independent commercial fisherman, using outboard motors, contributes to the national economy. Scenes from 10 areas in the United States and Alaska show the catching of 10 different species of fish and shellfish using various colorful fishing techniques.

Shrimp Tips from New Orleans, financed by The Peelers Company of that city, manufacturers of shrimp processing equipment. The film reflects, in its unusual style of cooking, music and architecture, the people from many countries who settled there. Six shrimp recipes are cooked and served in typical New Orleans atmosphere showing the influence of various countries.

The Petrified River—The Story of Uranium, sponsored by Union Carbide and Carbon Corporation, which is closely identified with the atomic energy program. It tells the story of the greatest metal hunt in the history of America when thousands combed the Colorado Plateau for the source material for atomic energy. It depicts the geology of the Plateau area, the search for and the drilling, mining and milling of uranium ore. It completes the story by showing the use of uranium in atomic energy for electric power and the use of radioisotopes in medicine, agriculture and biologic research.

Arizona and Its Natural Resources, which depicts the major natural resources of the State and their development and utilization for the benefit of the people, financed by the Phelps-Dodge Corporation. The film shows how the great natural resources of the southwestern part of the United States lay untouched and unused for centuries, while aborigines, early Indians, Spanish conquistadors, and Mexican colonists overlooked their value.

These films may be secured on a loan basis without charge for group showings. Write U.S. Dept. of Interior, Washington 25, D. C.

SAN PEDRO

Fishermen's Fiesta

September 15-16 1956

JUDGING by past performances, more than 200,000 people will throng San Pedro for its annual Fishermen's Fiesta which is being held this year on Saturday and Sunday, September 15 and 16. Besides colorful events and booths along the dock which will hold the interest of the crowds on Saturday, there will be the usual Sunday morning services in the Catholic church, St. Mary of the Sea, the blessing of the fleet at noon, and then in the afternoon the parade of scores of fishing boats all handsomely decorated along the lines of a previous winner shown herewith. Work on various plans and decorations is now proceeding apace under sponsorship of the San Pedro Chamber of Commerce.

Fishermen Festivals of California Are World Famous

California fishermen's festivals are as famous as any in the world, says a professor of Italian on the Los Angeles campus of the University of California.

Dr. Charles Speroni has been gathering material on folklore behind California's four most important fishermen's festivals which are held each year at San Francisco, Monterey, San Pedro, and Point Loma.

Interest in the festivals is so great that accounts of them are carried in newspapers all over the United States and sometimes in Europe, he reports.

In San Francisco, says Dr. Speroni, the fiesta is sponsored by Italian (mainly Sicilian) fishermen; in Monterey by Sicilian fishermen; in San Pedro mainly by Italian and Slavonian fishermen; and at Point Loma by the Portuguese.

"Whether these old-country-inspired festivals will continue to thrive in America," says Dr. Speroni, "depends largely on whether new immigrants join their former compatriots, and whether their children, born in this country, will uphold the customs, traditions, and faith of their fathers.

"In certain localities, it will depend on fishing conditions," he adds. "Poor seasons have caused many of the fishing boats that used to fish off the Golden Gate and Monterey to move to San Pedro."

Should the yearly catch become worse, Dr. Speroni believes, the small number of fishermen left may continue to observe the religious part of their festival, but will discontinue the expensive pomp and gaiety of these unusual social and civic spectacles.

International Fishery Equipment Exhibition

An exhibition of fishing equip ment is being organized by the Go ernment of Turkey to coincide wit the Fourth Meeting of the FAO-spo sored General Fisheries Council f the Mediterranean, which will me at Istanbul, Turkey, from Septemb 17 to 22, 1956.

The exhibition of fishery equi ment will take place from Septe ber 15 to 22. Exhibition space wi be available free of charge, and sp cial arrangements will be made enable firms to demonstrate ech sounders. The Turkish Foreign Tra Department will authorize the dut free temporary import of equipme for display at the exhibition. Sa of equipment by exhibitors may made within the limits of trade agr ments between Turkey and the co try of origin concerned.

National Tuna Week

SEPTEMBER 13-22, 1956

HOMEMAKERS all over America will be alerted to National Tuna Week, September 13 through 22, 1956.

The Tuna Research Foundation, sponsors of the promotion, has placed a four-color page ad plus one column in black and white in Look Magazine's September 18 issue.

A host of related manufacturers have joined in the overall promotion. For example, Minute Rice will feature "Tuna Rice Pronto" with a four-color full-page ad in several magazines. Minute Rice will use television facilities for the event and provide in-store spectacular displays, in addition to merchandising by its field salesmen.

Carnation Milk will use a tuna recipe on its "Burns and Allen" TV show, and will make tuna and evaporated milk recipes a feature item for its field men.

Kraft Foods will feature a tuna sandwich recipe on TV and radio, while other network commercials will include the "United States Steel Hour," the Reynolds Metals' "Frontier" show, "Our Miss Brooks," "Topper," "December Bride," "Queen for a Day," and General Mills' TV outlets. Macaroni manufacturers also will cooperate.

Individual member canners of the Tuna Research Foundation will have color ads in American Weekly, This Week, Parade, Family Weekly and independent Sunday supplements plus national and regional TV and radio commercials.

The Fish and Wildlife Service will devote its field personnel and home economist TV demonstrators to the program.

Dates for National Tuna Week have been moved from the customary first week in November to tie-in with "back-to-school" lunches and menus.

Shrimp Fiesta Dates

Dates for the 1956 Shrimp Fiesta —October 15 to November 3—have been announced by Virgil Versaggi, chairman of the Shrimp Association of the Americas. The Association, which has its headquarters in Brownsville, Texas, is an international trade association of Mexican and United States shrimp fishing interests. Plans are underway for publicizing shrimp cookery, as a food in its own right and in combination with other foods.

Research on Pacific Tuna Problems

An oceanographic investigation of the eastern tropical Pacific Ocean, for the benefit of the tuna industry, will be made by the Scripps Institution of Oceanography of La Jolla, California.

The scene of the oceanographic study, the tropical Pacific west of Central America, is the big fishing area for the American tuna fleet. The purpose of the study is to make it possible to forecast the time and area for good tuna fishing and so provide a scientific basis for increasing the efficiency of the tuna fishery.

Since tuna presence and abundance is dependent to a great extent upon food supply, and since plankton, which is the chief direct or indirect food source for ocean fish, is affected by water conditions, the many phenomena which affect water conditions will come within the scope of the study.

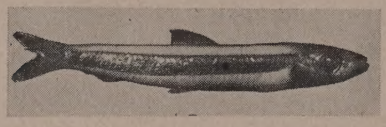
Among the things which bring about the fluctuations in the abundance of plankton are the chemical nutrients brought to the surface by "upwelling" of water from the lower reaches of the ocean and by the retention of fertile water in the "interface" between ocean currents. Hence the waters of the Baja California, Tehuantepec, and Panama upwellings and the interface between the Peru Current and the Gulf of Panama water will be subject to various physical and chemical examinations. The behavior and the relationship of tuna to the changes in water conditions will also be studied.

Shrimp Association Plans

In taking over the presidency of the Shrimp Association of the Americas, Agustin de la Barra of Mazatlan, Mexico, said the primary aims of the Association will continue to be raising quality standards and promoting shrimp in all its forms. He reiterated the message of the retiring president and new chairman of the board of directors, Manuel Sanchez of Brownsville, Texas, that the "Shrimp Association of the Americas in its program over the past five years has far exceeded the expectations of its founders."

Mr. de la Barra was elected president at the annual meeting of the Association last month in Mexico City, attended by about 350 members of the shrimp industry in the United States and Mexico.

The Sardine Season Landings in California



By JOHN RADOVICH

Marine Fisheries Branch,
California Dept. of Fish and Game

WHEN the California sardine season ended February 1, the catch had reached approximately 75,000 tons or only about 7,000 tons more than the previous season.

In July 1955, the Marine Research Committee reported that prior to the start of the season the entire adult population of the Pacific sardine was in the neighborhood of 600,000 tons, that approximately 300,000 tons of adult fish were in California waters, and that 150,000 tons might be taken if economic conditions did not curtail the fleet's efforts.

This, the committee report stated, was about the same amount of fish as was available to the fishery in the 1954-55 season which was hampered by strikes at the beginning of the season and unfavorable market conditions which kept the vessels on limits. This resulted in holding the catch to 67,000 tons.

The 1955-56 season also had a delayed start because of strikes which at first kept the catch below that of the previous season. However, since the vessels were not greatly hampered by limits they exceeded last season's landings by mid-season, and finished with a slightly higher total catch.

Season Highlights

Several interesting aspects of the season are apparent:

1. Although the canneries were accepting fish and the infrequent imposition of limits had little effect on the size of the individual boat catches, the fishermen's success declined markedly as the season progressed.

2. About 50% of the commercial catch by number was of fish born in 1952.

3. Evidence to date indicates that the spawn success since 1952 has been poorer than in 1952, which was considered weak.

4. According to the Marine Research Committee pre-season report, the adult sardine population was smaller preceding the 1955-56 season than it was before the 1954-55 season, but that a higher percentage (about 50%) was off California in 1955-56.

5. The evidence at hand indicates that the sardines off Southern California the past two years were chiefly fish which had been born off Lower California.

Outlook for Future

From the foregoing it would seem that the sardine population is still at a low level and that unless favorable conditions allowed for a good spawn survival the outlook for the industry is not good.

Of course, a higher percentage of sardines could possibly move in from Mexico and yield an increased catch, but without the favorable recruitment of young fish this would only result in a further decline in the total population.

There are a number of hypotheses regarding reasons for the poor recruitment of recent years. Two main ones are: (1) total survival of sardines from spawning is not dependent upon brood stock size except at stock levels lower than any yet experienced in the sardine population; and (2) above and below certain population levels the survival of sardines from spawning depends on the size of the brood stock, and these critical levels have occurred in the history of the sardine fishery. The effect of the brook stock size on recruitment definitely needs further study. ★

Propagation of Bait Fishes

A booklet entitled "Raising Bait Fishes," is ready for public distribution.

Raising bait fishes commercially has a threefold value—it gives the fisherman better live bait, it aids the State by conserving the natural supply of forage fish, and it gives the dealer a better and more consistent business.

One of the chief difficulties with obtaining bait fishes from natural sources is that usually bait fish are most plentiful at the time demand for live bait is lowest. Another problem is that attempting to keep bait fishes in holding tanks for any extended time is expensive and wasteful because of the high mortality rate among the fish. In addition, the shortage of minnows and other bait fish in public waters is now a reality and regulations on minnow seining are getting more stringent each year.

Many Points Covered

The publication covers in detail the problems of establishing and operating a bait-fish hatchery, selection of fish for the hatchery and the life history and characteristics of each of 20 of the more important species of bait fishes.

Since a bait-fish hatchery is largely a series or collection of ponds, the booklet carries considerable information about both artificial and natural pond development and management. While ideal specifications for the construction of artificial ponds can be set forth, the report says, in actual practice the climate and topography of the area is the controlling factor in any such development.

When stocking a pond with adult fish it is important to have the correct number of brood fish and the proper sex ratio. The report also goes into problems of pond fertilization and artificial feeding, trapping and seining, transplanting and holding, tank losses, and control of weeds, diseases, and parasites. There is also discussion of the natural predators—such as birds, snakes, turtles, fish, muskrats and crayfish—while the 20 most important bait fishes are discussed in detail.

This publication, called Circular 35, a 121-page document with numerous illustrations, is for sale at 45 cents by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C.

nports Come from any Countries

More countries are now supplying hery products to United States mar-ts than in former years, according a review of imports made by the sh and Wildlife Service.

The review showed that shrimp was ported from 26 countries during 55 compared with 23 countries in 54. In 1940, 10 countries supplied rimp to United States markets. Im-rts of fresh, frozen, canned and ied shrimp in 1955 were valued at 4.5 million dollars at the foreign rt of shipment.

Tuna, in its various forms, came om 21 different countries in 1955. 1940, 12 countries supplied tuna the United States. United States ports of tuna were valued at the reign port of shipment at $33.2 illion.

Imports of groundfish and ocean rch fillets during 1955 from 12 untries were the same number as 1954. In 1940, 99% of these im-rts were received from two neigh-ring countries. Imports of these oducts during 1955 were valued at most $25 million, foreign value.

Lobsters, in their various forms, were imported from 28 countries during 1955. In 1954, 23 countries were shown as supplying lobsters. Only 10 countries supplied lobsters to the United States in 1940. Lobster imports in 1955 were valued at $35.2 million, foreign value.

Swordfish came from six countries in 1955 as compared with two countries in 1940. These imports had a foreign value of $5.4 million.

Crabmeat imports originated in six countries, about the same as in 1940. Imports were valued at $4.9 million.

About 50 different countries in all, contributed to the imports of these commodities during 1955. Imports of these products during 1955 totaled about 436 million pounds and had a value of $128 million at the foreign point of shipment. In 1940, these same products totaled 66 million pounds at a value of $10.7 million.

New Fish Hatchery in Montana

Recent legislation enacted by the Congress authorized the Fish and Wildlife Service to construct a $465,000 warm-water fish hatchery at Miles City, Montana. This will be another step in the program for the development of hatcheries to meet the increasing demand for warm-water fishing.

The farm pond is becoming increasingly important in the realm of sport fishing. Besides offering a source of food to the family, it also provides angling for many others who for various reasons cannot enjoy stream or lake fishing. It also takes a lot of pressure from natural game fishing areas.

At the new hatchery there will be 40 acres of ponds, 16 of one-acre each and eight three acres each. Provision is also made for a service building which will include a hatchery room for pike eggs, three residences, a water supply development and all other necessary facilities. Large-mouth bass spawn at temperatures between 55 and 60 degrees, while bluegill require water temperatures near 80 degrees for reproduction.

SEACORD'S

Pump & Injector

SERVICE

"All Makes"

SALES

AMERICAN BOSCH

BENDIX SCINTILLA

ADECO FUEL PRODUCTS

TROJAN BATTERIES

BElmont 4-1454

1337 India Street

San Diego 1 California

it pays to keep your ear tuned

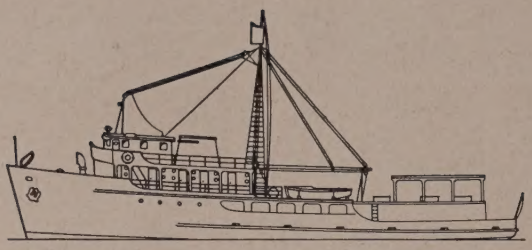
Help yourself to faster Ship-to-Shore Telephone Service . . . make these simple tips a habit:

1. *Tune in regularly* to the Marine Operator's broadcasts—she may have an important call for you!

2. *Keep your ship's registration up to date.* When you buy a ship equipped with radio-telephone, notify us so we can change the listing.

3. *Set up a listening schedule* and tell callers ashore the best hours to reach you.

Pacific Telephone



Plan for Cutting Costs Of Fishing Boats

COSTS of building fishing boats may be cut by as much as 10% if a plan for establishing a universal system of standards for scantlings, now being prepared by naval architects of the Food and Agriculture Organization (FAO), Rome, is finally adopted. The system would also lead to developments in the design of fishing vessels and an increase in their seaworthiness and operational efficiency.

Speaking at FAO headquarters recently, Mr. Jan-Olof Traung, Chief, Fishing Boat Section, Fisheries Division, said: "Work on preparing a first draft of a universal system of standards of scantlings is still in the formative stage, although we have for some years past been gathering information on the design and construction of fishing boats, paying special attention to the smaller vessels, those under 100 ft. overall length.

"We have acquired first-hand knowledge of construction problems and local requirements in Europe, North America, and also in the Near, Middle and Far East and South America, where FAO naval architects have been engaged on various projects.

"At the present moment we are especially well placed to plan the future work on reducing boat construction costs," he continued, "as we have four FAO naval architects at headquarters: (1) Paul Ziener of Norway, who has been working for us in India for the past two years; (2) Howard Chapelle, an American naval architect who is known throughout the world for his work on fishing boats—he is going on an FAO assignment in Turkey; (3) my assistant, Peter Gurtner from Switzerland; and (4) myself."

These four experts have been reviewing the progress made in fishing boat construction, based on the reports, plans and designs of naval architects throughout the world.

"Recently," said Mr. Traung, "Dwight Simpson, a well known American naval architect, in an unpublished study dealing with wooden trawler construction, made some far reaching recommendations for minimum standardst of scantlings.

"Mr. Simpson based his findings on the case history of more than 20 vessels. By comparison, European vessels were found to be surprisingly heavily constructed. This is also true, as we know from experience, of fishing boats in many other parts of the world and we believe that if the Simpson recommendations were universally adopted the result would be to cut the present high costs of fishing boat construction, especially in Europe and in many of the underdeveloped countries."

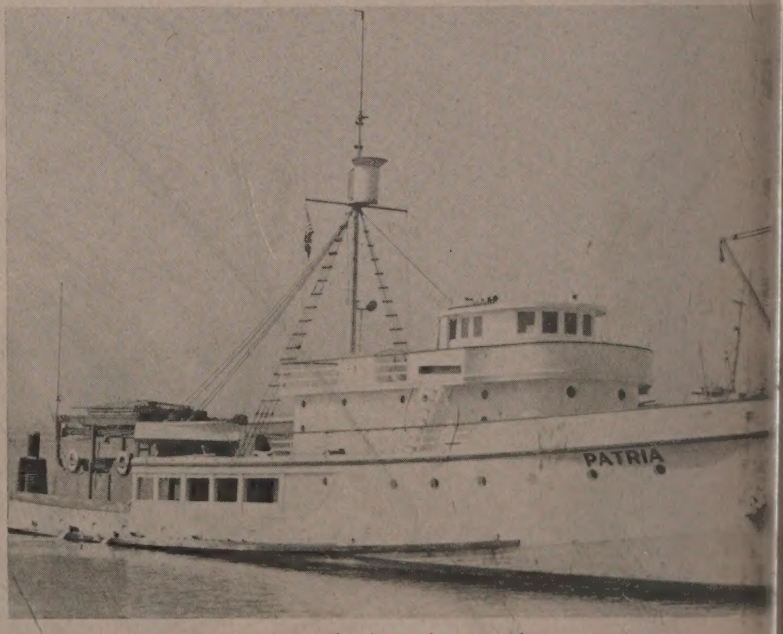
The system envisaged by the FAO naval architects would call for no departure from normal construction methods carried out by skilled craftsmen.

New German Trawler

As a result on many post-war experiments with various designs including propulsion units, the steering propeller, and the automatic stern trawl winch, a new factory trawler has been completed at Bremerhaven in West Germany. The new vessel has cruiser-type lines (pilot house mounted forward of midship) with an over-all length of about 218 feet, breadth of 32.8 feet, and the draught about 14 feet. The trawler was designed for a speed of 13 knots an hour, developed from two 600 horse power diesel motors.

The diesel motors are located just forward of the propeller, and the fish processing section is located toward the stern. One or more fish rooms for storing the catch are midship.

From extensive tests carried on rebuilt trawlers and new types of vessels in the Polar Seas it has been found that the automatic stern winch facilitates hauling the catch aboard and results in far greater catches.



Good example of a modern tuna clipper

What's New or Different

lew Marine Coating

A new protective marine coating on ıe market, called Duro Plastic Fiberlass, is made with a special vinyl esin and actually contains Fiberglas bres within the coating.

It is a clear coating that may be nted to any of six colors and may e brushed or sprayed on wood, steel, luminum, canvas or fiberglas surıces. It is non-toxic and, applied like rdinary paint, it effectively seals eams and pin hole leaks and is recmmended for use on hulls, decks, abin tops, hatch covers, bilges, etc.

For further information please rite The Woodhill Chemical Co., 391 E. 33rd St., Cleveland 14, Ohio. Vest Coast Distributor is Joseph F. isler Co., 275 Brannan St., San rancisco, California.

Rub Rail for Boats

A new, impact-absorbing rub rail, nade of extruded rubber specially ormulated to withstand sun and salt vater, is available as a rounded, proective bumper for the deck and gunvale of molded fibre glass boats.

It is said to completely prevent narks and mars resulting from scrapng and bumping against docks or ther objects. Write for information o Molded Fiber Glass Boat Companl, 55 Fourth Ave., Union City, Pennsylvania.

New Scale Solvent

A new Scale Solvent allows the hip's own crew to rapidly remove alcium carbonate and magnesium ydrate scales from marine heat exchangers, such as condensers, evaporators and Butterworth heaters, in afety and at one-third the cost of horeside cleaning. The scale is converted into highly soluble salts which are easily rinsed away. Iron oxide deposits are also broken up. Due to the addition of a wetting agent, even oil contaminated scale is effectively removed.

Full information and technical aid will be provided upon request to Bull & Roberts, Inc., 117 Liberty St., New York 6, New York.

"Boats Today"

The second volume of "Boats Today" is 100% new, presenting 151 modern boat designs of unusual interest. It is like a tremendous "boat show" where you can study the new and interesting things in modern boat design.

There are literally hundreds of drawings of profiles, layouts, perspective views and cutaways — all backed by authoritative descriptions. Sailboats of all kinds, gundalows, sharpies, schooners, catamarans, power boats of all sizes and types— cruisers, runabouts, water skiers, utilities—every popular type.

This new "Boats Today" is a big 132-page book, 8½x11 inch size, bound in a handsome red and black cover. Price is just $1.00 postpaid, cash with order, from Universal Motor Company, 566 Universal Drive, Oshkosh. Wisconsin.

Century of Rope Making

One hundred years of ropemaking was celebrated last month by Tubbs Cordage Company, 22nd and Iowa Streets, San Francisco.

On July 23, 1856, the first piece of rope ever produced west of New England was manufactured by the firm, then known as Tubbs & Co.

Manufacturers of many varieties of rope, including such colorful usage as early San Quentin executions and safety nets for the construction of the Golden Gate Bridge, Tubbs' chief contribution has been to maritime industry throughout 100 years of San Francisco's history as a leading port.

Diesel Replacement Filter

A new diesel replacement filter has a 2-way purifying action for the heavy duty compounded oils specified for diesel motors.

First, its efficient filtering action removes metal, dirt, soot and abrasive particles which cause cylinder, ring and bearing wear.

Secondly, it contains a specially processed filtering medium that absorbs the oil contaminants caused by normal engine combustion to the crankcase oil, yet does not affect or remove the special additive compounds of these heavy duty oils.

Before the harmful colloidal impurities and acids in the oil have a chance to form as gum, varnish or sludge deposits, they are refined out in the high-pressure packed filter core to circulate again as a freshly purified lubricant. Contact J. B. Slack, Refill Filter Co., 541 Fifteenth Ave., Newark 3, N. J.

Fish Hose

Fishing fleets are adding automation by way of Fish Hose. Now a trawler may hold nets submerged in as much as 75 feet of water, lower the fish hose and pump the fish into the hold. Back breaking hauling of nets over the side is rapidly becoming a thing of the past.

Boston Woven Hose & Rubber Company, of Cambridge, Mass., supplies fish hose in diameters ranging from 6 to 12 inches. The fish hose, specially constructed for greater flexibility and durability, resists deteriorating effects of fish oils and briny waters. Fishermen hail the new development, which speeds loading and unloading (the hose also ejects the catch at the pier), permitting more frequent trips per boat.

Construction of Anchors

Anchors fabricated from high-strength steels have so many advantages over heavy, comparatively low strength castings that Danforth Anchors have changed to this construction wherever practical. In addition to a great saving in weight, the lighter anchor costs less, digs in faster due to its thinner, sharper flukes and is far superior in ease of handling.

To the boat owner, Danforth points out the fallacy of buying or using anchors "by the pound." Anchors should be bought by pounds of *holding power*. Tests show that anchors fabricated of high strength aluminum or steel give by far the most holding power per dollar of cost, plus other advantages. Danforth Anchors, 2121 Allston Day, Berkeley 4, Calif.

ELECTRONIC DEVICES In Fishery Work

UNWITTINGLY and involuntarily the fish has "gone electric." For example, an electric fence has been used successfully by the Fish and Wildlife Service to keep the big Kodiak bear away from critical sections of salmon streams.

Electrical weirs protect fish by jolting the life out of sea lampreys on their way to spawning grounds to bring forth more lampreys to prey on more fish.

A "tattle-tale" electronic device, called a sonic tracker, is being attached to the back of salmon and for as much as 100 hours every twist and turn of the fish is flashed to a recording instrument on land or in a boat.

Fish count themselves when passing through another device created by the Fish and Wildlife Service and at times the fish take their own pictures.

Fish protection at powerplant intakes by use of electrical fish screens is being studied, while in other places fish are being spotted for harvesting by any one of several fish finders which have been developed by electronic specialists.

An underwater telemeter which indicates the depth of nets has solved one of the problems of "mid-water" trawling while underwater television is telling more about fish in their regular habitat and more about what could be done to make fishing gear more efficient and effective.

Fish "shockers" are used to temporarily "knock out" fish in a stream to permit stream population counts.

Besides these, there are the fathometers used to measure ocean depths, radar and electrical beams and direction finders to guide ships and planes, and radio for communications.

Three New Devices

Three of these devices—the electric fish counter, the sonic tracker and the fish guiding apparatus—apply particularly to salmon studies but can be used on other species of fish as well. In fact, considerable interest has been shown in the fish counter and in the guiding device by many State fish and game departments. The sonic tracker is too new to elicit widespread comment yet.

The sonic tracker is to be used to study the passage of fish through fishways. The initial studies will be made at Bonneville Dam on the Columbia River where the Service has the facilities to observe fish behavior in several types of fishways. By being able to chart the reactions of salmon to various types of fishways, Service technicians hope to be able to determine the most effective fish ladder design.

The sonic tracker is a capsule about two and a half inches long and less than an inch in diameter which is fastened to the back of a salmon just to the rear of the dorsal fin. Studies show that the fish's reactions are normal about five seconds after the tracker is attached. It contains a 15-volt battery and other transmitting apparatus capable of sending signals for a period of time varying from 10 hours to 100 hours. The signals can be detected as far as 2,000 feet under ideal conditions. A fish carrying the capsule can be tracked and its position pinpointed for about 800 feet in clear still water and for about 100 feet in rough, turbulent streams. The receiver which automatically registers the movements can be placed on shore or installed in a boat. Sound waves may be varied so that movements of as many as ten fish can be traced at the same time.

The chief value of the electric fish counter at present is to test the effectiveness of the fishways as well as to register the number of salmon heading for the spawning grounds. The continuance of a salmon fishery depends to a great extent upon a sufficient number of adult fish reaching the spawning area. The practice of making visual counts at fish ladders and in streams has not been entirely satisfactory.

The counting device is fully automatic, not only counting the fish and indicating the size and direction of travel, but, through the medium of an underwater camera, it can identify the species of fish. The counter can also be adjusted merely to sound a signal when a fish goes past, thus alerting a watcher to his task. It is also possible to have the dial, which registers the fish, installed in an office or at some other point some distance from the stream. Indications are that this instrument, when fully developed, will be used in many parts of the Nation where fish runs are important and in many places where fish counts are needed.

For Guiding Fish

Numerous techniques in screening young fish from water diversions have been tried with varying degrees of success. Since the power turbine and some of the big irrigation diversions offer a major threat to young fish, especially salmon on their way back to the sea, the Fish and Wildlife Service has done considerable research on mechanical and electrical methods of meeting the problem. Considerably more research is necessary along this line.

In small experimental streams these devices have been about 95% successful in guiding the fish into the desired places. Testing is now being done on large streams. Two methods have been used, one based on the fact that fish are attracted to the positive pole. The other is based upon the principal of repulsion of fish by an electrical field.

The sea lamprey weir is an electrical barrier placed across a stream used by the lamprey for spawning. The weir is an apparatus of charged electrodes which sets up an electrical field which kills any sea lamprey attempting to pass through it. The weirs are installed in streams tributary to the Great Lakes in cooperation with the respective State fish and game departments. The sea lamprey which entered the upper Great Lakes about 20 years ago has destroyed the lake trout fishery of Lake Michigan and Lake Huron and has now appeared in Lake Superior. Its control now is a major objective.

The underwater telemeter is a device which indicates the exact distance of the trawl or net below the surface of the water. Its use will aid considerably in increasing the efficiency of mid-water ocean commercial fishing. Comparatively little mid-water fishing has been done by American fishermen, who have concentrated on surface and bottom fishing.

The Fish and Wildlife Service has two underwater television units. One of these is at the Gear Research Labo-

atory at Coral Gables, Florida, and ne other is at the Fishery Laboratory : Woods Hole, Massachusetts. At oral Gables, the television has per-itted close scrutiny of fishing gear t actual operation under water. It is pected that this research will re-ilt in many improvements in the fficiency of commercial fishing gear. lt Woods Hole, biologists are more ncerned with the effect of fishing ear upon fish which are too small r market, and methods of saving nall fish from destruction.

The use of the electric shocker in aking fish population studies has een an accepted practice for years, ut recent adaptations now makes ne shocker effective in soft water, ereby extending its usefulness.

The electric fence protects the pawning salmon from Kodiak bears. few brushes with the fence has a ery salutatory effect upon the big ellows.

Thus electricity and electronics lay a major role in the life of fish, rotecting them from harm until such me as they become useful to man, at hich time it swings against the fish nd over to man, as attested by such evices as fish finders and the elec-ic stove. *

"Wildlife" Postage Stamps

Announcement of a series of three Wildlife Conservation Postage Stamps, to be issued during 1956 by the Post Office Department, is the result of the personal interest of President Eisenhower.

The three species selected for the stamps were based on the fact that all are typically American, and that all have benefited greatly by wise management practices of federal and state conservation agencise.

Wild turkey, pronghorn antelope, and king salmon, representative of birds, mammals, and fish, were chosen. The turkey stamp was the first in the series, and the antelope stamp is now out, with the salmon stamp to be issued in October. All of the stamps will be of the three-cent denomination.

The Fish and Wildlife Service was given the responsibility of selecting the subjects and preparing authentic designs.

New Lakes Add To Fish Supply

A permanent additional supply of game fish amounting to more than a million pounds a year has been provided by the man-made lakes created with Federal assistance, Secretary of the Interior Douglas McKay pointed out. Fish and Wildlife Service experts predict that each of the nearly 8,000 acres of public fishing waters so far completed under the Federal Aid program may be expected to produce at least 150 pounds of game fish annually.

The first Federal Aid lake was completed in 1953, a 32-acre impounded area on Virgin Run, near Pittsburgh, Pennsylvania. The latest and largest is Arkansas' Atkin Lake, 652 acres of water backed up behind a dam 2,500 feet in length.

These fishing waters and 79 others like them have been built by the respective States with the help of Federal funds made available by the Fish and Wildlife Service. The 81 lakes are located in 27 States and represent a total of 7,908 acres of new fishing waters. The cost of these areas averages from $1,000 to $3,000 per acre of water.

Reprints

DID YOU LIKE YOUR AD THIS MONTH?

Why not have a reprint made for your own use!

1000 Copies, one color_____$12.00
Additional 1000_____$ 7.50

PRINTED ON 60 LB. ENAMEL PAPER
Multiple Color Ad Rates on Request
(These prices if order received by 15th of month)

McINNIS PRINTING & PUBLISHING
Phone 187
ORANGE, CALIFORNIA

FOR PROMPT ATTENTION
SALES · PARTS
REPAIRS · SERVICE

CATERPILLAR
MARINE DIESEL ENGINES

WOOD FREEMAN
METAL MARINE PILOT

BENDIX depth RECORDER

FEDERAL PROPELLERS

Universal
100% MARINE MOTORS

RCA RADIOMARINE
Radiotelephone
AND
Radio Direction Finder

SHEPHERD
MARINE
2031 BELT STREET - SAN DIEGO
Phone Belmont 99471

How the Modern

ANTIBIOTICS HELP

Prevent Fish Spoilage

By JACK D. LANGLOIS

Manager Food & Beverage Department
Chas. Pfizer & Co., Inc.

GREAT strides have been made over recent years in improving the quality of canned fish. In addition the practical extension of the theory of refrigeration into the areas of flash freezing and frozen storage has been a boon to the industry.

Now it is becoming increasingly evident that a few selected antibiotics used in conjunction with present day storage techniques and without significant changes in commercial procedures, can make a great contribution to the economic well being of the canner, the frozen fish packer, and those involved in marketing fresh fish.

There are a number of different methods by which spoilage occurs. Of primary concern to the fish industry is bacterial spoilage, for it is this type that results in the most serious economic losses.

Chemical companies, and in particular those chemical companies who have been leaders in the development of fermentation products, have for the past 15 years been intimately associated with the development, testing, and marketing of commercial antibiotics. In recent years our attention has been directed more and more toward the development of food grade broad spectrum antibiotics which in very minute quantities would extend the storage life of fish as well as other foods in the fresh state by effectively inhibiting bacterial growth.

Bacterial spoilage begins as soon as the fish are caught. Present methods of icing fish on board fishing vessels are designed to slow down the multiplication of bacteria. Antibiotics such as oxytetracycline accomplish the same purpose. However, it is the combination of low temperature storage plus antibiotics and proper sanitation that will make possible longer storage or shelf life.

As a further precaution against spoilage, we have been able to show that a few parts per million of oxytetracycline added to the tank into which fillets are normally dipped for brief periods will also aid in increasing what we like to call freshness time. Best results in this latter experiment were obtained when the fish from which the fillets were taken were previously stored on board with antibiotic ice. This is only natural when you remember that the first area of defense against spoilage is on the ship where it begins.

An important point is that the use of oxytetracycline (which we will eventually market under the trade name "Biostat") is currently on an evaluation basis. Fish so treated are not sold commercially at present. Later tests, we hope, will show the Food & Drug Administration that when oxytetracycline is added at recommended levels there is no residue remaining prior to consumption. Inactivation occurs due to storage and/or cooking . . . thus this use is entirely safe.

However, antibiotics are not a substitute for sanitation and refrigeration on fishing vessels or in canneries. Thus, in using them, you have an additive cost factor to consider. What the exact cost will be is difficult to estimate on an individual basis, but initially it probably will be pretty high . . . so it may be out of the question unless there are ways to compensate. Well, what are the possibilities? As an example let's assume you determine that Biostat will allow you seven extra days of freshness time. What can you do with this time?

First there is the possibility that the fishing voyage can be extended to cover a greater area and thus make possible a more economical load of quality fish per boat. Second, as a canner faced with a short season and tremendous quantities to process in a brief period of time, it would be possible to level out production peaks and valleys by more normal scheduling. As a freezer you could guard against accidental spoilage during storage and transit.

Such advantages also add some dangers. By staying at sea an extra four days, and in addition shipping to markets four days further away, you will in effect defeat the purpose of the use of antibiotics. Thus it becomes important to know the history of the fish caught for your operation . . . then to evaluate the benefits of antibiotic treatment in your case. This is the challenge that antibiotics puts up to you.

This is a condensation of a talk made by Mr. Langlois at the National Fisheries Institute convention last month.

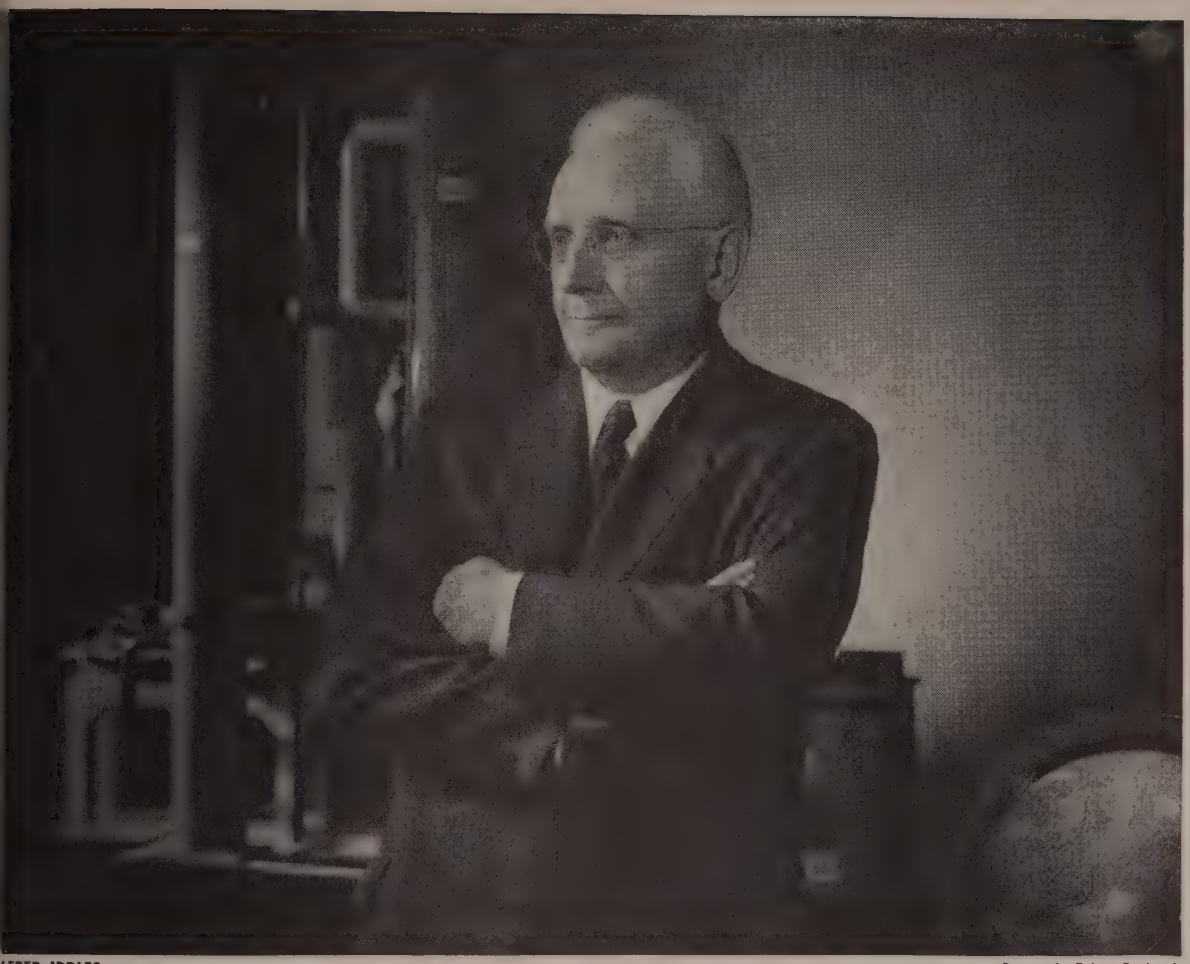
Survey Seeks Ways to Increase Fish Use

A three-city study which could be the basis for a broad campaign to increase the consumption of fresh fish and shellfish in inland United States will be made soon, says John L. Farley, Director of the Fish and Wildlife Service.

The three cities selected are Nashville, Tennessee; Indianapolis, Indiana; and Portland, Maine. Portland was selected for comparative purposes to determine whether results of promotional efforts to expand the market for fresh fish differ in inland and coastal areas. For the purpose of the study fresh fish are defined as those, dressed or not, which are not frozen, cured or otherwise preserved. Fish which are simply iced are classified as fresh.

Previous studies have shown that the per capita consumption of fresh fish by persons in areas not adjacent to the sea coasts or to the Great Lakes is lower than that of persons living on the seaboard. The purpose of the study is to attempt to learn in more detail why this is so, and to explore ways and means of increasing the consumption of fresh fish in the inland areas.

Wholesalers, retailers and housewives in the three cities will be questioned during the survey. Information will be obtained on the species of fresh fish and shellfish sold in the stores; the quality of the fish and the amount of waste; the availability of the desired species; methods of handling and taking care of the fish, e



LFRED IDDLES

Portrait by Fabian Bachrach

"...11,000, or 70% of Our Employees Are Buying U.S. Savings Bonds Regularly..."

The Payroll Savings Plan, a truly 'All American' thrift rogram has been steadily winning employee approval ll over the country. Employees of Babcock & Wilcox re an example of this fact.

"As the result of a recent campaign nearly 11,000 or 0% of our employees are now buying U. S. Savings onds regularly on the automatic Payroll Savings Plan. hey are cultivating habits of thrift and at the same me doing their share in helping to keep our economy n a sound basis. This fine program deserves strong support by every company."

ALFRED IDDLES, ***President***
The Babcock & Wilcox Company

The campaign to which Mr. Iddles refers was a simple, person to person canvass that put a Payroll Savings Application Blank in the hands of *every* B & W employee. B & W employees did the rest. Your State Sales Director will help you build *your* Payroll Savings Plan. Phone, wire or write to: Savings Bond Division, U.S. Treasury Department, Washington 25, D. C.

The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

PAN AMERICAN FISHERMAN

California-Arizona Boundary Line

U.S. Sen. Thomas H. Kuchel reports that the long fight to determine the official California-Arizona boundary virtually ended with the recent passage of a bill to negotiate a formal compact fixing the State lines along the Colorado River. As a member of the Senate Public Works Committee, Kuchel worked to bring about an amicable settlement of the boundary dispute.

California and Arizona officials have long been eager to formalize understandings reached informally by State commissions. The bill provides that a citizen not residing in either state must participate in official negotiations. The compact establishing the boundary will not be effective until ratified by legislatures of both states and approved by Congress.

Kuchel said determination of the boundary is "imperative because of jurisdictional squabbles intensified by the construction of dams. The two states have been in conflict about taxing powers, enforcement of fish and game laws, water use, and health and safety because of a lack of a precise boundary."

Historically the middle of the stream has been the interstate line, Kuchel pointed out, but the wanderings of the river have made it difficult to determine where the boundary was on September 9, 1850, when the California Constitution was adopted.

Fish Sticks in Africa

An important development in the South African fishing industry during 1955 was a big campaign of advertising and publicity, conducted simultaneously with the development of quick-frozen fillets and fish sticks by a processing firm.

Much of the success of fish sticks, sales of which have increased many times over since their introduction just over a year ago, has been due to the invention of an appealing little "fishy character" which appears on every package of fish sticks. This character is becoming as well known to the South African child as Donald Duck.

In addition to the producer's brightly-colored packages, the character is on key rings, children's decals, painting and story books. Attractive window displays and point-of-sale advertising are also employed, along with national advertising in all the principal newspapers and periodicals

"FISH PARADE"
October 29 to November 3

A Task Force of 75 to 100 men in the fishing industry will be named to form local "Fish Parade" committees for next falls' all-industry promotion, it was announced by Harry A. Trimm, chairman of the Fish Week Committee, at a Committee meeting held last month at the National Fisheries Institute, Washington, D. C. Fish Parade dates are October 29 to November 3, 1956.

Attending were representatives of all segments of the industry and members of the Fish and Wildlife Service, U.S. Department of the Interior.

Murray Wheeler, director of the Committee's advertising and publicity, submitted proofs of advertisements to appear in trade magazines, the emblem to be used in tie-in advertising and window strips for restaurant and retail stores. He also told of plans to publicize all fishery products through newspapers, magazines, radio and television, and brought the Committee up to date on the work being done directly with allied food industries, independent and chain retail stores.

The part the Fish and Wildlife Service will play in the Fish Parade was announced by Arnie Suomela, associate director of the Service. Included in FWS plans are: requesting the cooperation of major food trade associations, releasing announcements of the Fish Parade from the Secretary of the Interior's office, contacting restaurant associations, public utility units and similar groups by the field staff. Services of the NFI Speakers Bureau also will be available.

Promotional kits are being made ready for the Task Force, Mr. Wheeler said. Called "How to Increase Your Fish Sales During National Fish Week," a kit will include suggested proclamations by mayors and governors, plans for forming local committees, television and radio commercials, suggestions for store displays, and other material which can be used locally.

Associations participating in the Fish Week promotion include, in addition to NFI, the following from the West Coast: Northern California Seafood Institute, Northwest Fisheries Association of Seattle, Southern California Fisheries Association, the Tuan Research Foundation, and the American Tuntboat Association.

Russia Eyes Tuna Fishing

Extracts from a translation of an article on the "Tuna Fisheries of the Atlantic and Pacific Oceans," by A. K. Tokarev in the Soviet journal *Rybnoe Khoziaistvo* reveal some current Russian ideas on the subject of tuna fishing. Here they are:

"It seems that it is time for the government to take active measures for the organization of a fishery for such a valuable object as the tuna. A decision on this question only for the northwestern part of the Pacific Ocean, as indicated in the program of fisheries for 1956-60, seems clearly inadequate.

"It appears to us that the organization of a tuna fishery should follow two paths:

"1. Preparation (construction) and dispatch of flotillas of special tuna fishing vessels with trained crews to those areas where the world's tuna fisheries are fully established and effectively operating. These are the well known regions of the Pacific and Atlantic oceans, and also the North Sea.

"The first expeditions to distant regions should be of an exploratory commercial character, with the objectives of a detailed study of the area and mastery of the methods of catching tuna. They should be preceded by a careful study of the literature on the distribution of the tunas and the fisheries.

"2. Preparation for tuna fishing of two small flotillas (two or three vessels each) for the Japan Sea and the Black Sea, using fast ships. The vessels should be provided with gear for trolling, longlining, pole-fishing and purse-seining, with the aim of finding out which are the most effective kinds of gear and methods for these waters.

"Constantly active air reconnaissance, both in the Japan Sea and the Black Sea, should help the tuna boats in finding concentrations of fish.

"The organization of the first experimental expeditions will permit settlement of the long-standing question of the establishment of a Soviet tuna industry and will give the nation a new type of quality fish produc

opularity of Fish nd Shellfish

A survey of the popularity of fish-y products in public eating places as been made by the Fish and ildlife Service.

According to the survey, tuna was rved as the most popular species in ,000 establishments out of 190,000 rving fish. Halibut vied with floun-er for the second place, and had-ock, salmon, cod, ocean perch, pike id catfish followed in popularity that order.

Shrimp was the most popular shell-sh in 112,000, or over 80% of the 4,000 public eating places serving ellfish. Oysters were next, with allops and lobsters a close third id fourth. Crabs and clams followed fifth and sixth place.

The findings are based on a sta-stical sample of 4,500 establish-ents reporting their three most ten sold species of fish and their ading species of shellfish during e month of May, 1955.

Rankings of the species of fish on regional basis differ. Tuna ranked rst in the Northeast region, but opped to ninth, tenth and third place in the North Central, South and Western regions, respectively. The more frequent sale of tuna in the Northeast region may be due, FAWS said, to the larger proportion of drug stores, drinking places, lunch counters and refreshment stands which normally serve tuna in salads and sandwiches.

Flounder ranked second, third and fourth in the Northeast, South and West, respectively, but was insignificant in the North Central region. Halibut ranked first in the West and fourth and eighth in the Northeast and North Central, respectively, but was not among the leaders in the South. Haddock was in third place in the Northwest and North Central, sixth in the South, but not ranked among the leaders in the West.

Salmon was second in the West and fifth, seventh and ninth in the Northeast, North Central and South, respectively. The ranking of cod was more uniform. It ranked fourth in the South, fifth in the West, and sixth in both the Northeast and North Central.

Shrimp was the most popular species of shellfish in the four regions by a wide margin. Oysters are the second most often sold shellfish in the North Central, South and West, but were in sixth place in the Northeast. Scallops rank second in the Northeast, fourth in the North Central, and fifth in both the South and West. Lobsters ranked third in the Northeast and North Central and fourth in the South and West. Crabs claimed third place in the South and West, fifth in the Northeast and unranked in the North Central.

Research Laboratory for Gulf Fisheries

Problems related to finding, catching, and processing Gulf of Mexico fish and shellfish will be tackled at the new fishery laboratory to be constructed this year at Pascagoula, Mississippi, reports Secretary of the Interior Fred A. Seaton.

Research on methods and techniques for providing the highest quality pack of shrimp, oysters, tuna and other south Atlantic and Gulf seafoods will be one of the main tasks of the new laboratory. It also will provide facilities for the exploratory fishing and gear development program now being conducted in the Gulf area.

Know Your Industry . . .

Keep abreast of the latest developments in your industry

Read Pan American Fisherman . . . *REGULARLY!*

MAIL THIS TODAY

SUBSCRIBE HERE!

Please enter my subscription for

1 year for $3

2 years for $5

In the United States and possessions.
Canada $4 per year; all other countries $5 per year.

NAME_____

ADDRESS_____

CITY_____ZONE_____STATE_____

☐ Bill Me ☐ Check Enclosed

Mail to PAN AMERICAN FISHERMAN, Orange Savings Bldg., Orange, Calif.

DIRECTORY
Marine Sales and Services

These Firms Specialize in Serving the Fishing and Waterfront Industries. They Understand Your Problems — Save Time and Money by Calling Them

CANVAS

"Canvas Sea Anchors"

AMERICAN AWNING & TENT COMPANY
1105 INDIA STREET, SAN DIEGO 1, CALIF.

"Everything in Canvas"

J. E. MEYER — BElmont 9-0550

LICENSES

SAVE 25%
On Mexican Bait Licenses
Write or Phone to . . .
ARJONA BROKERS
P.O. Box 119 — Phone 1055
ENSENADA, BAJA CALIF., MEXICO

SUPPLIES

Headquarters for . . .

MARINE and INDUSTRIAL SUPPLIES

OIL BURNING RANGES

The Carlson Co.
Phone BElmont 3-5444
1760 Kettner • San Diego 1

BROKERS

SERVICE FOR TUNA CLIPPERS
COMPLETE CUSTOMS CLEARANCE

Shreve & Hays
CUSTOM HOUSE BROKERS
Room 1 — B St. Pier
SAN DIEGO CALIFORNIA
Phone BE 9-8019

FUEL INJECTOR SERVICE

Sales & Service
AMERICAN BOSCH
BENDIX SCINTILLA
ADECO FUEL PRODUCTS
TROJAN BATTERIES
SEACORD'S
1337 India St. — San Diego 1
BElmont 4-1454

ELECTRICAL

CALIFORNIA ELECTRIC WORKS
Complete Electric Service
24 hours a day for 37 years
BElmont 2-2145
424 8th Ave. San Diego, Calif.

INSURANCE

- LIFE
- ANNUITIES
- RETIREMENT
- MARINE INSURANCE

"Low Guaranteed Cost"

M. E. SIMAS CO.
622 Rosecrans St.
San Diego 6, California
AC 2-3188

SALT

That Salty Salt

WESTERN SALT CO.
Plant
South End of San Diego Bay
Office
1245 National Ave.
Telephone BElmont 3-8107
SAN DIEGO, CALIFORNIA

PAINTS

W. P. FULLER & CO.
MARINE PAINTS and GLASS
512 Front — BElmont 2-2033
803 7th — BElmont 9-4373
San Diego, California

PHOTOGRAPHY

Largest and Best Equipped Studio in San Diego

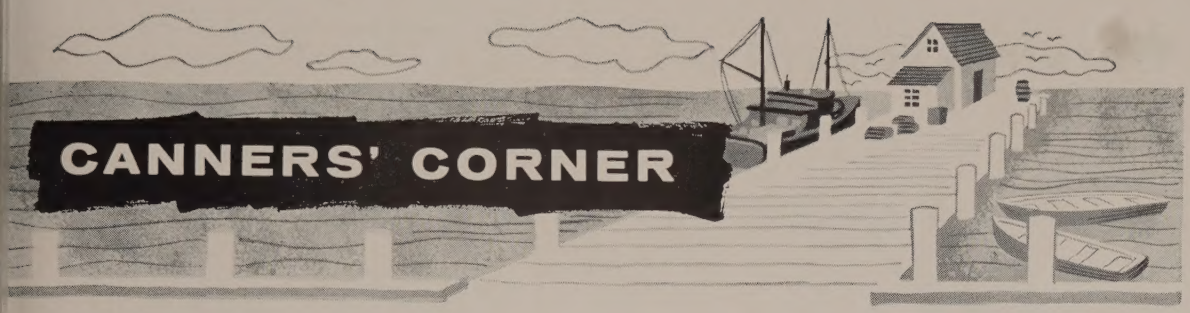
BUSCO-NESTOR
PHOTOGRAPHY
COMMERCIAL • INDUSTRIAL
MARINE
SALVAGE OPERATIONS
BElmont 9-4743
2670 5th Ave. • San Diego, Calif.

☆

Easy Way to Subscribe
On previous page is handy subscription blank; use it to make sure you don't miss an issue.

USE THE SUBSCRIPTION BLANK ON PREVIOUS PAGE

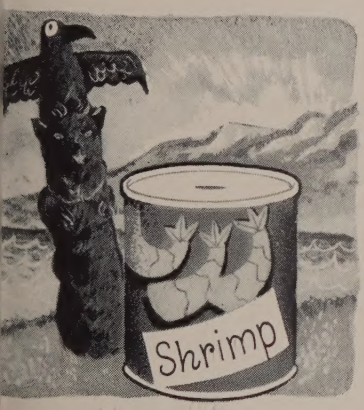
☆



CANNERS' CORNER

Q. Who originated the salmon filler?

A. American Can Company scientists and engineers! This important development opened the way for the first high-speed salmon canning lines during the 1930's.



Q. How has Canco aided canners of shrimp?

A. In many ways. For example, it was American Can Company that developed a suitable method for packaging and freezing Alaskan shrimp.

Q. Has Canco ever designed a can to meet a special need of fish canners?

A. Many times! Although we have not yet been called upon to produce a can like the one illustrated, Canco does offer a wide variety of can sizes and types suitable for canning virtually any sea food product.

AMERICAN CAN COMPANY CANCO

NEW YORK
CHICAGO
SAN FRANCISCO

Library, Pacific Oceanic
Fishery Investigations
P. O. Box 3830
Honolulu, T. H.

Working Toward a . . .

BIGGER AND BETTER FISHERY MARKET

MOST fishery interests agree that things are looking up for the future. Some of our most troublesome problems are being recognized and helpful solutions searched out—by both business and government authorities. You can read about them on other pages in this magazine.

With the American economy in general on a high level, and most lines of business apparently destined to remain that way, we believe that the fisheries situation also will shape up quite satisfactorily.

Our efforts now and always are dedicated to the creation of bigger and better markets for canned tuna, and to advance the best interests of the entire tuna industry.

CALIFORNIA FISH CANNERS ASSOCIATION INC.

Breast-O'-Chicken, Inc. · California Marine Curing & Packing Company
Coast Fisheries (Division of the Quaker Oats Company)
Franco-Italian Packing Company, Inc.
High Seas Tuna Packing Company, Inc. · Pan-Pacific Fisheries, Inc.
South Coast Fisheries, Inc. · South Pacific Canning Company
Star-Kist Foods, Inc. · Sun Harbor Packing Company
Van Camp Sea Food Company, Inc.
West Coast Packing Corporation · Western Canners Company